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APPROXIMATE PHYSICAL COMPOSITION OF THE PRIMARY CUTS
FROM STEER CARCASSES OF DIFFERENT MARKET GRADES

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It is rather well known that in grading meat animals and dressed carcasses in market channels conformation, finish, and quality are the three general factors considered. The first two of these factors, and possibly also quality, are greatly influenced by, or directly related to, composition as represented by the proportions of fat, lean or muscle, and bone. Consumers are deeply concerned with the proportions of these constituents in their meat purchases. It is the purpose of this report to present the approximate average content of separable fat, lean, total edible meat, and bone for the carcasses and for each of 11 primary cuts from the Choice, Good, Commercial 2/, and Utility 2/ grades of dressed steers.

In the preparation of the accompanying table, data were available on a total of 71 cattle studied at the United States Animal Husbandry Experiment Station, Beltsville Research Center, Beltsville, Maryland. Among the cattle were 2 Aberdeen Angus, 19 Herefords, 5 Holstein Friesians, 2 Jerseys, 11 Shorthorns (beef type), 24 Shorthorns (dual-purpose type), 5 grade Herefords, 2 grade Shorthorns, 1 Hereford x Aberdeen Angus, and 2 animals of nondescript breeding. They varied from 11 to 21 months in age at time of slaughter. Final feedlot weights ranged from 557 to 941 pounds and chilled-carcass weights from 284 to 576 pounds.

All carcasses were graded by a committee of 3 qualified men. Each man worked independently and for each carcass the average of the 3 opinions was accepted as the correct grade. Standards as published in Department Bulletin 1246 were employed by the committee members in performing the grading.

A uniform method was used in dividing the carcasses into the 11 primary cuts. This method was quite similar to the so-called Chicago style of cutting.

The values for the various components of the several cuts, as shown in the table below, are offered as a general guide and should not be considered as necessarily indicative of the exact composition of the cut in any particular instance.

1/ The authors wish to give credit to R. L. Hiner and K. F. Warner for work on the analytical phase of the study and to Mrs. Edna V. Steely for assistance in summarizing the data.

2/ The grades Commercial and Utility were designated Medium and Common, respectively, prior to July 16, 1939. In each instance the standard remained essentially unchanged. This was true for heifer beef as well as for steer beef.

Approximate average physical composition of the primary cuts from Choice, Good, Commercial, and Utility grade carcasses, the steers ranging from 11 to 21 months in age.

Cuts and components		Grade of carcass			
		Choice	Good	Commercial	Utility
Number of cattle		10	25	30	6
Average final feedlot weight	pounds	879	880	903	793
Average chilled carcass weight	"	523	512	520	436
Carcass (right side) as analyzed					
Separable fat	percent	30.99	24.48	20.37	15.00
Separable lean	"	52.97	57.45	59.42	63.72
Edible portion	"	83.96	81.93	79.79	78.72
Bone, ligament, and tendon	"	16.04	18.07	20.21	21.28
Standing rib					
Separable fat	"	31.20	23.66	17.97	11.62
Separable lean	"	49.90	54.15	56.63	61.51
Edible portion	"	81.10	77.81	74.60	73.13
Bone and ligament	"	18.90	22.19	25.40	26.87
Chuck					
Separable fat	"	21.17	16.00	13.52	9.57
Separable lean	"	62.03	65.29	66.62	69.79
Edible portion	"	83.20	81.29	80.14	79.36
Bone and ligament	"	16.80	18.71	19.86	20.64
Brisket					
Separable fat	"	44.47	36.96	30.42	25.34
Separable lean	"	41.25	44.85	47.24	52.16
Edible portion	"	85.72	81.81	77.66	77.50
Bone	"	14.28	18.19	22.34	22.50
Navel					
Separable fat	"	40.05	32.49	25.72	16.91
Separable lean	"	45.74	51.51	53.41	59.73
Edible portion	"	85.79	84.00	79.13	76.64
Bone	"	14.21	16.00	20.87	23.36
Foreshank					
Separable fat	"	9.93	8.82	5.85	4.29
Separable lean	"	48.29	48.26	47.54	49.19
Edible portion	"	58.22	57.08	53.39	53.48
Bone	"	41.78	42.92	46.61	46.52

		Choice	Good	Commercial	Utility
Short loin					
Separable fat	percent	38.20	30.14	26.67	21.14
Separable lean	"	49.43	54.57	56.17	62.09
Edible portion	"	87.63	84.71	82.84	83.23
Bone	"	12.37	15.29	17.16	16.77
Loin end	"				
Separable fat	"	34.86	28.49	24.60	19.26
Separable lean	"	53.01	57.88	60.66	65.36
Edible portion	"	87.37	86.37	85.26	84.62
Bone	"	12.13	13.63	14.74	15.38
Round, with hindshank					
Separable fat	"	16.72	13.71	10.83	8.08
Separable lean	"	64.55	67.16	68.69	69.51
Edible portion	"	81.27	80.87	79.52	77.59
Bone and tendon	"	18.73	19.13	20.48	22.41
Rump					
Separable fat	"	28.28	23.73	20.08	14.69
Separable lean	"	51.07	53.52	53.08	59.83
Edible portion	"	79.35	77.25	73.16	74.52
Bone	"	20.65	22.75	26.84	25.48
Flank					
Separable fat	"	66.77	60.67	56.87	45.11
Separable lean	"	32.11	38.23	42.26	53.74
Edible portion	"	98.88	98.90	99.13	98.85
Bone	"	1.12	1.10	0.87	1.15
Kidney knob					
Separable fat	"	85.86	82.22	79.37	75.87
Kidney	"	14.14	17.78	20.63	24.13

